

# Instructions For Installing the Pneumatic Switch Operating System

By Sunset Valley Railroad



Installation is very easy. You just need one hose between the back connection on the actuator and the side connection on the toggle switch as seen in the photo. Just push the hose firmly over the barbed fitting; it will not come off again. Connect a second hose between the rear of the toggle switch and a supply of compressed air at 30psi. The hoses can be up to 200 ft long. The toggle switch either applies or releases air pressure to the actuator, which throws the turnout. An internal spring in the actuator resets the turnout when pressure is released.



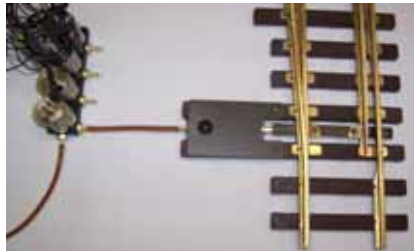
To install the actuator. Offer the actuator up to the headblocks (the two long ties) of the switch so that the throw pin is under the switch throwbar. Note the position and drill a .086" (#44 drill) hole in the throwbar. It's desirable to have the hole a little bigger than the pin, to allow for some lateral movement. Sunset Valley switches already have a suitable hole molded in the throwbar. Insert the throw pin into the hole and let the actuator plate rest on the headblocks. Now pull the plate back about 1/8" to apply some spring tension to the point rails, and mark the position of the mounting holes in the headblocks. Drill .079" dia holes (#49 drill) in the headblocks and attach the plate with #2-56x3/8" screws. Check for free movement of the throwbar. The actuator has 1/2" of movement, and will give a 20oz force to close the point rails in both directions.

The actuator can also be mounted under the switch so that it is invisible. This also allows space for a switchstand (with the handle removed) to be mounted on top, operated by a wire or paper clip on the throwbar, as seen in the photo. To protect the moving parts from stones and dirt, cut an 8" long piece of 1" landscape pipe lengthwise to make a trough under the headblocks.

Usually you will want to control several turnouts; this is achieved by the use of a manifold. Connect the air supply hose to the end of the manifold and then connect hoses to each toggle switch. You can use a short piece of hose to connect pairs of unused ports, fold over

and tape a hose for a single unused port. The toggle switch can be mounted on a panel for convenience; it needs a ¼" hole. You can make up a master control panel with your layout marked on it with car pinstripe tape, and mount the toggles at each switch location, just like a real railroad control panel.

Compressed air. You can buy an inexpensive small air compressor from Harbor Freight or other supply house. The compressor needs to have a regulator so you can adjust the pressure to about 30psi. The compressor usually has an outlet which is 1/4"NPT or 1/8" NPT. The SVRR adaptor set will fit both sizes.



Solenoid valve. This is 24VDC, and uses 1Watt of power. 4 solenoids can be mounted on a manifold for a compact installation. Screw the solenoid to the manifold using a 1/8" Allen wrench. Connect the air supply to the end of the manifold. Outlets from each valve are on the side of the manifold under each valve. Although solenoids can be mounted in any position, upright is probably best